

Claims

1. A fluid applicator valve comprising:

a stopper and an elastic closure cap;

said stopper having a first end and a second end, a fluid passage within said first end, a vertically opening circumferential recess within said first end outward from and around said fluid passage, a valve seat under and adjacent to said fluid passage;

said elastic closure cap having a first end and a second end, a skirt area on said first end, a dome area attached to and around said skirt area, a diaphragm area adjacent to and attached to said dome area on said second end central area, and a sealing lip attached to said diaphragm and extending toward said elastic closure cap first end;

said elastic closure cap skirt having an outwardly extending sealing rib fitting within said stopper vertically opening circumferential recess; and,

said elastic closure cap dome area and diaphragm extending over said stopper first end and said fluid passage, and said sealing lip extending under said stopper fluid passage in said stopper second end side of said fluid passage;

said stopper vertically opening circumferential recess is formed by a circumferential side wall;

said circumferential side wall terminates by extending inwardly above said outwardly extending sealing rib to lock said elastic closure cap to said stopper, enabling said elastic closure cap to be pressed against and frictionally rubbed on a surface to be treated.

2. A fluid applicator valve as in claim 1 wherein

    said stopper vertically opening circumferential recess has an outside diameter that is slightly smaller than said elastic closure cap skirt outside diameter so that a compressive force is placed on said elastic closure cap dome when said skirt is inserted within said stopper vertically opening circumferential recess to place a force on said sealing lip tending to engage said elastic closure cap sealing lip with said stopper valve seat.

3. A fluid applicator valve as in claim 2 wherein:

    said stopper first end has a circular limit rib for contact with said elastic closure cap to limit the distance said elastic closure cap can move toward said stopper fluid passage.

4. A fluid applicator valve as in claim 2 wherein:

    said stopper first end vertically opening circumferential recess is formed between said circumferential side wall and an outer sealing rim of an interior section of said stopper;

    said outer sealing rim has an annular recess;

    said elastic closure cap has a resilient closure shoulder;

5. A fluid applicator valve as in claim 4 wherein:

    said stopper has a sealing rim;

    said elastic closure cap skirt has a shoulder outwardly offset from said elastic skirt to assist securement of said sealing rib.

6. A fluid applicator valve as in claim 1 wherein:

said elastic closure cap sealing lip is attached to said diaphragm area by a valve neck that is attached to and between said elastic closure cap diaphragm and said sealing lip; said valve neck extends through said stopper fluid passage.

7. A fluid applicator valve as in claim 6 wherein:

said elastic closure cap valve neck as a diameter that is smaller than the diameter of said stopper fluid passage and said sealing lip outside diameter is larger than the diameter of said stopper fluid passage.

8. A fluid applicator valve as in claim 1 wherein:

said elastic closure cap dome and diaphragm area upper surface areas have a plurality of tines extending outwardly therefrom.

9. A fluid applicator valve as in claim 8 wherein:

said tines form multiple rubbing and coating protrusions from said elastic closure cap.

10. A fluid applicator valve as in claim 1 wherein:

said elastic closure cap dome has slot openings therein for the passage of fluid.

11. A fluid applicator valve as in claim 1 wherein:

    said elastic closure cap dome and diaphragm area upper surface areas have a plurality of times extending outwardly therefrom;

    slot openings in said elastic closure cap dome between said tines allow passage of fluid between said plurality of tines.

12. A fluid applicator valve as in claim 6 wherein:

    said elastic closure cap skirt, dome area, diaphragm, valve neck, and sealing lip are all formed of a one-piece integral elastomeric material.

13. A fluid applicator valve as in claim 1 wherein:

    said elastic closure cap skirt extends outwardly, forming a shoulder, and downwardly forming said enlarged sealing rib;

    an annular projection extends upwardly from said enlarged sealing rib outer upper surface forming an outer upwardly opening recess;

    said stopper circumferential side wall terminates by extending inwardly locking said elastic closure cap to said stopper by extending into said outer upwardly opening recess.

14. A fluid applicator valve as in claim 13 including:

    said elastic closure caps outer sealing rim having an annular recess for securing said elastic closure cap to said stopper.

said elastic closure cap dome and diaphragm area upper surface areas have a plurality of tines extending outwardly therefrom;

    said tines being resilient for rubbing and coating a surface.

15. A fluid applicator valve comprising:

    a stopper and an elastic closure cap;

    said stopper having an outer circumference, a fluid passage within said circumference and a valve seat under and around said fluid passage;

    said elastic closure cap consisting essentially of an integral diaphragm, dome, skirt and a sealing lip, with said dome extending around and blending into said diaphragm, and said skirt extending around and blending into and downwardly from said dome, and said sealing lip extending downwardly from said diaphragm and under said stopper fluid passage;

    means for applying a force against said diaphragm for raising said sealing lip against said stopper valve seat;

    means on said stopper for securing said elastic closure cap skirt;

    said elastic closure cap skirt having an outwardly extending enlarged sealing rib;

    said stopper outer circumference upper end extending inwardly above said enlarged sealing rib securing it to said stopper;

    said means for applying a force on said sealing lip includes a difference between the circumferential length of said elastic closure cap skirt and said means for securing said elastic closure cap skirt to said stopper.

16. A fluid applicator valve as in claim 15 including:
- openings in said elastic closure cap diaphragm for discharging fluid;
- tines on said diaphragm outer surface for spreading fluid and for engaging a surface.
17. A fluid applicator valve as in claim 16 wherein:
- said openings in said elastic closure cap are located to discharge fluid in-between said tines.
18. A fluid applicator valve as in claim 16 including:
- an annular projection extending from said elastic closure cap enlarged sealing rib outer upper surface forming an outer upwardly opening recess;
- said stopper outer circumference upper end extending into said sealing rib outer upwardly opening recess.
19. A fluid applicator valve as in claim 18 including:
- said stopper having an inner upper surface around said fluid passage;
- a circular limit rib for contact with said elastic closure cap to limit the distance said elastic cap can move toward said stopper fluid passage.

20. A fluid applicator valve as in claim 18 wherein:

said stopper outer circumference upper end is crimped into said elastic closure cap skirt to press it against an inner wall of said stopper.